

LOCAL TELECOMMUNICATIONS COMPETITION IN WISCONSIN AS OF DECEMBER 31, 2001 AND JUNE 30, 2002

Summary

Competitive local exchange companies (CLECs) have increased their share of voice-grade local lines in Wisconsin from 6 percent in 2000 to 12.4 percent in June, 2002. In the market for the more lucrative business lines, the CLEC share was 24 percent in June of 2002. For residential lines, the largest CLEC penetration has occurred in the Fox Valley, followed by Milwaukee and Madison. CLECs in the Fox Valley and Madison are primarily using unbundled loops with their own switching, while in Milwaukee there has been a large increase in the CLEC use of the platform of unbundled loops, switching and transport (UNE-P) to serve residential customers during 2002. For voice-grade business lines, CLECs initially concentrated on the Milwaukee metro market, both through leasing loops from the incumbent local exchange company (ILEC) and using their own loops. By June 2002, CLECs served a significant share of the business lines throughout eastern Wisconsin. In the exchanges served by SBC, competitive providers served 10.3 percent of the residential lines and 32.4 percent of the voice-grade business lines, i.e., 18 percent of the total market.

The most striking trend in local telecommunications is the decline in the number of lines and the accompanying basic local service revenues for the ILECs in Wisconsin. This trend started with a slow down in the rate of growth in 2000, followed with declines in the number of lines and in revenues from basic local service in 2001. While the growth in the overall market for wireline voice services is slowing, revenues from special access and data circuits have continued to show robust growth. For wireless companies, the number of wireless subscribers has increased from 1,698,520 at the end of 2000 to 2,522,479 as of June 30, 2002, which is 68 percent of the total number of voice-grade lines provided by ILECs and CLECs in Wisconsin.

Broadband lines provided by competitive providers have increased dramatically in the past two years, going from 58,988 the end of 2000 to 222,763 in June, 2002. Cable television companies (CATV) dominate the residential broadband market, while telephone companies lead in the much smaller business market. Overall, cable modems are used for over 80 percent of the broadband lines provided by competitive providers. This percentage has increased even as telephone companies have placed a greater emphasis on selling high speed digital subscriber lines (DSL).

Many ILECs use CLEC subsidiaries to provide broadband services, and those lines are included with the CLEC numbers in this report. There are enough problems with the way broadband lines are counted in the annual reports filed with the Public Service Commission of Wisconsin (Commission) that the broadband lines ILECs provide directly to end users have not been included in this report. If ILEC lines were included in the broadband totals, the cable modem share of the broadband market in Wisconsin would drop to between 70 and 75 percent.

Background

This report updates the initial report from the Competitive Study Committee established by the Public Service Commission of Wisconsin (Commission). That report presented data on the state of competition for local telecommunication services as of December 31, 2000.¹ The information for this updated report comes from three sources: the annual reports filed with the Commission by ILECs, CLECs (officially classified as Alternative Telephone Utilities – Others [ATU-Others]), and by Alternative Telephone Utilities – Resellers (ATU-Resellers);² from data requests sent to CLECs, resellers and CATV companies providing telecommunications and information services in Wisconsin (Data Requests);³ and from the Federal Communication Commission (FCC) *Local Competition and Broadband Report*, Form 477.⁴ The FCC report was used as a check on responses to the Data Request and for total line numbers for the larger CATV and wireless providers that are not regulated by the Commission and that declined to respond the data requests.

Three data requests have been sent to CLECs, resellers and CATV companies in order to obtain more complete and reliable information specific to the amount, type and location of the local telecommunications services in Wisconsin. The data requests were not sent to ILECs because information is available in their Commission-required annual reports, which have a long history and are generally reliable. In contrast, the annual reports filed by CLECs are relatively new and many responses have been missing or incomplete or did not fit the information requested. Resellers are only required to file abbreviated annual reports that do not provide the type of detail useful for an analysis of competition. Cable television and wireless companies are not regulated by the Commission and are not required to file annual reports or to respond to data requests.

The data request forms for 2001 and June 30, 2002 were to be completed by September 30, 2002, but information was still being collected through the end of the year. Data requests were sent to 140 of the CLECs and largest resellers known to be operating or planning to operate in Wisconsin during 2002 and to 34 CATV providers. The Commission received responses from 98 CLECs and resellers and from 13 CATV providers, with 41 respondents indicating that they were providing local service in some form. The Commission believes that these 41 companies represent nearly all of the active CLECs in Wisconsin, but there are CATV companies that provide a significant percent of the broadband service in the state that did not respond.

The data requests asked for the number of voice-grade lines, high-capacity lines and broadband lines as of December 31, 2001 and June 30, 2002. Questions were further subdivided

¹ The report, *Competitive Study Committee Report for the Year 2000*, is available on request from Duane Wilson of the Commission staff at Duane.Wilson@psc.state.wi.us. The members of the Competition Study Committee are listed in Appendix B.

² The public version of the annual reports can be accessed from the Commission website at http://www.psc.state.wi.us/a_annlrpt/default.htm.

³ A copy of the data request forms, *2001 and 2002 Competitive Activity Data Request Form*, is available from the Commission website at <http://www.psc.state.wi.us/telecom/newsinfo/infrastr/infra-ind.htm>.

⁴ The FCC reports can be viewed at the FCC webpage: <http://www.fcc.gov/wcb/iatd/comp.html>.

into business and residential customers, both by the location of the customers and by the method of providing service. Competitive companies provide service through the resale of the incumbent's retail services, the use of UNEs and UNE-P from ILECs, and through investing in their own facilities. Where a competitive provider uses its own facilities, it was asked to indicate whether the services were provided over copper wires, coaxial cables, fiber optic cables, or through fixed wireless technology.

The FCC provides the Commission with the company-specific information it collects twice a year in its Form 477 survey of local competition and broadband activity. The FCC has regulatory control over CATV, wireless and satellite providers of telecommunication services and is the primary source for information about these companies. Because the FCC does not collect information from smaller ILECs and CLECs, does not ask companies to report by geographic areas within the state, and uses a different definition of what constitutes broadband service than was used in the data requests or annual reports, the Form 477 survey is an imperfect substitute for the types of information the Commission needs to analyze competition in Wisconsin.

The primary measures of competitive activity available to the Commission are revenues and the number of lines serving end users. The relative number of lines served by ILECs and competitors in different markets is one of the basic measures of competition, but the impact of competition on revenues is more subtle. Changes in the types of revenues earned by ILECs and CLECs provide insight into the types of customers and services provided. While competitive entry will influence the rate at which ILEC revenues from various services grow over time, changes in revenue are not definitive evidence for competition because revenues also vary with the level of general economic activity and in response to regulatory and technological changes. The expectation is that revenues earned by CLECs would have been earned by the ILECs unless the competitive activity caused the overall revenue pool to increase. The growth of wireless, internet and broadband services has increased total revenues, but these services have also cut into the number of ILEC lines and minutes of use, with the accompanying revenues they generate.

Regulatory changes since 1996 that impact revenues include the granting of rate flexibility or complete deregulation of some services, while other service rates remained under rate caps and other limits. There has been rate rebalancing between local service rates and access charges to interexchange carriers (IXCs) and between per-line charges and charges per minute of use. There are new charges for interconnection between networks and for the use of another company's networks to complete connections to end users. Technological changes that impact both revenue streams and lines include rapid increases in data, Internet and wireless traffic and the digitization of signals that make it possible to market new services to customers.

Evidence of Competition

ILEC Revenues

Table 1 and Graph 1 compare ILEC revenues from the services in 1996, when competition for basic local services was just beginning, with the major revenue sources in 2001. The ILEC revenues in Table 1 can be compared with the revenue sources for the CLECs listed in Table 4 to get an idea of the services the new competitors are targeting. It is expected that new entrants would focus on high-margin customers and services.

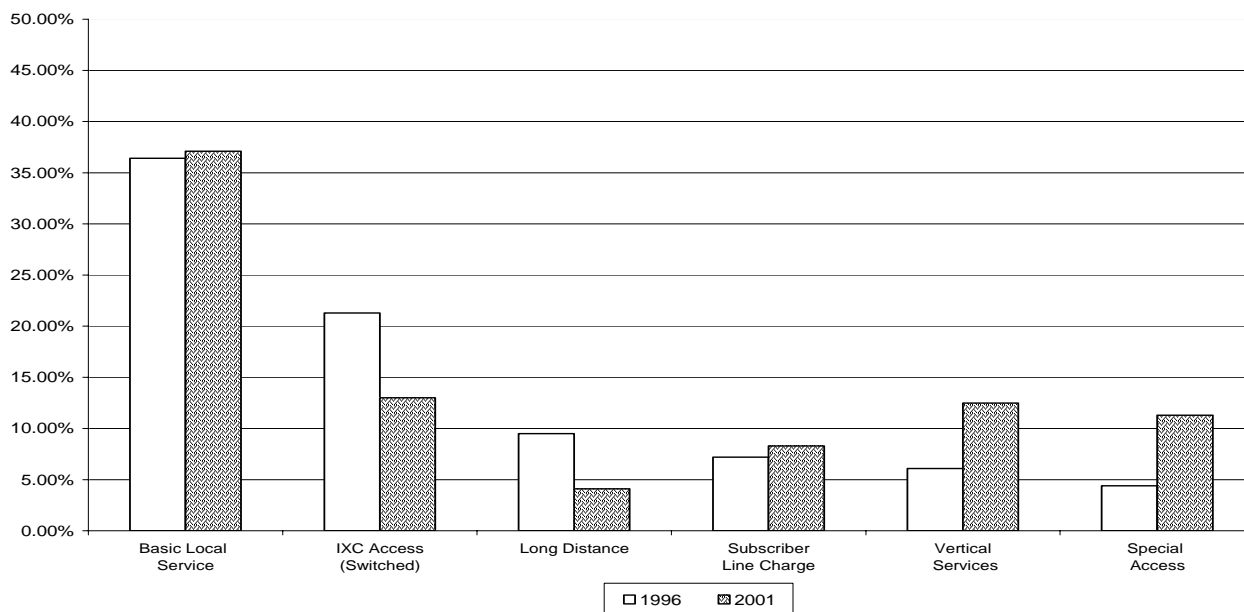
Services such as billing and collection, IXC access and intraLATA toll were subject to competition even before ILECs were required to interconnect their local networks with CLECs in 1996. Switched access revenues declined as a result of regulatory changes that mandated lower rates, but this decline was initially mitigated by increased lines and toll minutes of use. Both local lines and toll minutes of use are now under pressure from wireless providers, voice over the internet and the use of email. In contrast to the decline in revenues from switched access, revenues from interexchange special access and local private lines have grown dramatically.

Table 1: Composition of Wisconsin ILEC Revenues, 1996 and 2001

| Revenues in Thousands | 1996 | 2001 | Increase (Decrease) | Percent Change | Percent of Total 1996 | Percent of Total 2001 |
|--------------------------------------|--------------------|--------------------|--------------------------------|---------------------------|--------------------------------------|--------------------------------------|
| Total Revenues | \$1,904,608 | \$2,243,470 | \$338,863 | 17.8% | | |
| Basic Local Service | \$694,121 | \$832,361 | \$138,240 | 19.9% | 36.4% | 37.1% |
| IXC Access (Switched) | \$406,245 | \$290,796 | (\$115,449) | -28.4% | 21.3% | 13.0% |
| Long Distance | \$181,089 | \$92,879 | (\$88,210) | -48.7% | 9.5% | 4.1% |
| Subscriber Line Charge | \$136,636 | \$186,093 | \$49,457 | 36.2% | 7.2% | 8.3% |
| Vertical Services | \$116,971 | \$279,379 | \$162,408 | 138.8% | 6.1% | 12.5% |
| Special Access | \$82,895 | \$254,382 | \$171,487 | 206.9% | 4.4% | 11.3% |
| Non Regulated | \$71,220 | \$94,896 | \$23,676 | 33.2% | 3.7% | 4.2% |
| Directory | \$59,865 | \$70,681 | \$10,816 | 18.1% | 3.1% | 3.2% |
| B&C for IXC's⁵ | \$39,952 | \$31,892 | (\$8,060) | -20.2% | 2.1% | 1.4% |
| Mobile | \$32,517 | \$9,920 | (\$22,597) | -69.5% | 1.7% | 0.4% |
| Public Phones | \$32,003 | \$0 | (\$32,003) | -100.0% | 1.7% | 0.0% |
| L. D. Private Network | \$25,322 | \$28,600 | \$3,278 | 12.9% | 1.3% | 1.3% |
| Local Private Lines | \$20,069 | \$55,393 | \$35,325 | 176.0% | 1.1% | 2.5% |
| Other | \$5,702 | \$16,198 | \$10,496 | 184.1% | 0.3% | 0.8% |

⁵ B&C is Billing and Collection.

Graph 1: Major Areas of Wisconsin ILEC Revenues, 1996 and 2001



Revenue from long distance services, primarily intraLATA toll, declined due to more competition among toll providers, increased wireless usage, and reductions in toll rates, as well as from the loss of customers to CLECs. Billing and collection revenue losses occurred both from the loss of toll customers and from IXC either doing their own billing and collection or negotiating more favorable contracts with the ILECs. Accounting changes are responsible for the complete absence of payphone revenues in 2001, but even without those changes, payphone revenues were declining as a result of competition from competitive payphone providers and the rapid growth in wireless users. Wireless also contributed to the decrease in revenues from ILEC mobile services, slower line growth, and lower toll and access revenues. While directory services have been deregulated, the fact that revenues from the sale of directory advertising have kept pace with overall revenue growth suggests that there may be limited markets for more than one directory.

Table 2 illustrates the year-to-year increase in revenues from major services provided by ILECs. Because most basic local service rates have been under price cap plans that have minimized rate changes,⁶ local service revenue should track closely with changes in customers and lines. Subscriber line charges (SLC)⁷ belong to the company that owns the connections to the customer, so the growth in these revenues should also track the growth in ILEC lines. For some reason there is more variability in SLC revenues than would be expected, even accounting for the rate increases that occurred in July, 2000. The growth in special access revenues follows

⁶ The majority of lines in Wisconsin are served by SBC and Verizon; both are under price regulation per Wis. Stat. § 196.196.

⁷ The SLC is an interstate per month per line charge established by the FCC. The per month SLC has been increasing.

from increases in data traffic. Both increased penetration and price increases account for the big increase in revenues from vertical services like call waiting, call forwarding and caller ID. The company that provides voice service is also able to sell vertical services to that customer, so there should be some correlation between the growth in vertical service revenues and the growth in lines.

Table 2: Percent Growth in Major Revenue Sources by Wisconsin ILECS

| | Total | Basic Local | SLC | Switched Access | Vertical | Long Distance | Special Access | Non Regulated |
|-------------|--------------|--------------------|------------|------------------------|-----------------|----------------------|-----------------------|----------------------|
| 1997 | 1.4% | 5.1% | 5.6% | -0.9% | 31.3% | -22.3% | 27.7% | 23.1% |
| 1998 | 5.3% | 5.8% | 30.2% | -11.6% | 24.3% | 6.7% | 27.8% | 1.3% |
| 1999 | 6.5% | 7.9% | -9.7% | 9.4% | 17.2% | -16.4% | 30.5% | -8.37% |
| 2000 | 4.3% | 3.7% | 5.9% | -7.9% | 17.2% | -8.2% | 18.7% | 9.0% |
| 2001 | -0.6% | -3.2% | 3.7% | -18.9% | 6.6% | -7.5% | 21.4% | 7.1% |

Based upon the changes in yearly growth for ILEC revenues since 1996, it appears that competitive pressure for local service probably was not very strong until the year 2000.

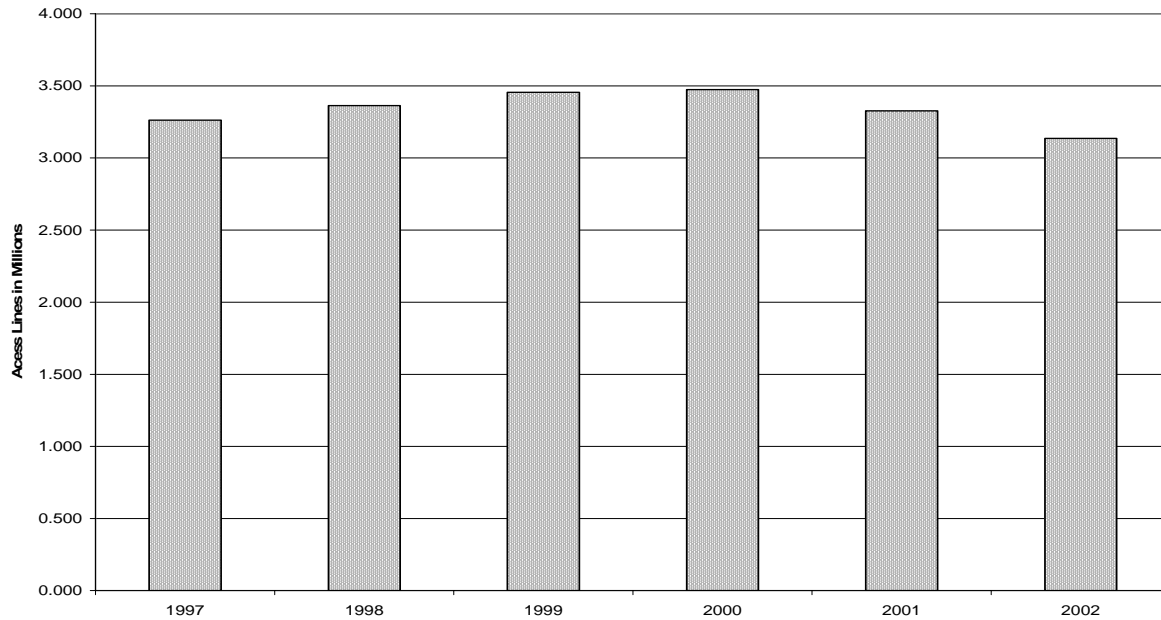
ILEC Lines

Table 3 and Graph 2 provide the yearly growth in lines for ILECs in Wisconsin. These numbers suggest that competition in some form was beginning to cut into the number of ILEC lines by 1998, with a strong impact beginning in 2000 leading to a decrease in the total number of voice-grade lines in 2001. Because the lines provided to CLECs for resale are reported as ILEC lines in the annual reports, the impact of competition would be greater than indicated by the raw number of lines. In addition to competition from CLECs, the loss of ILEC voice-grade lines in 2001 can be explained by customers switching from voice-grade lines for internet access to broadband lines, by the increase in wireless subscribers and by the general downturn in the economy.

Table 3: ILEC Line Growth in Wisconsin

| | Total Lines | Increase | Percent |
|-------------|--------------------|-----------------|----------------|
| 1997 | 3,261,972 | 124,800 | 3.98% |
| 1998 | 3,362,794 | 100,822 | 3.09% |
| 1999 | 3,455,369 | 92,575 | 2.75% |
| 2000 | 3,473,440 | 18,071 | 0.52% |
| 2001 | 3,325,656 | (147,784) | -4.25% |
| 2002 | 3,134,889 | (190,767) | -5.74% |

Graph 2: Total Wisconsin ILEC Lines, 1997 – 2002



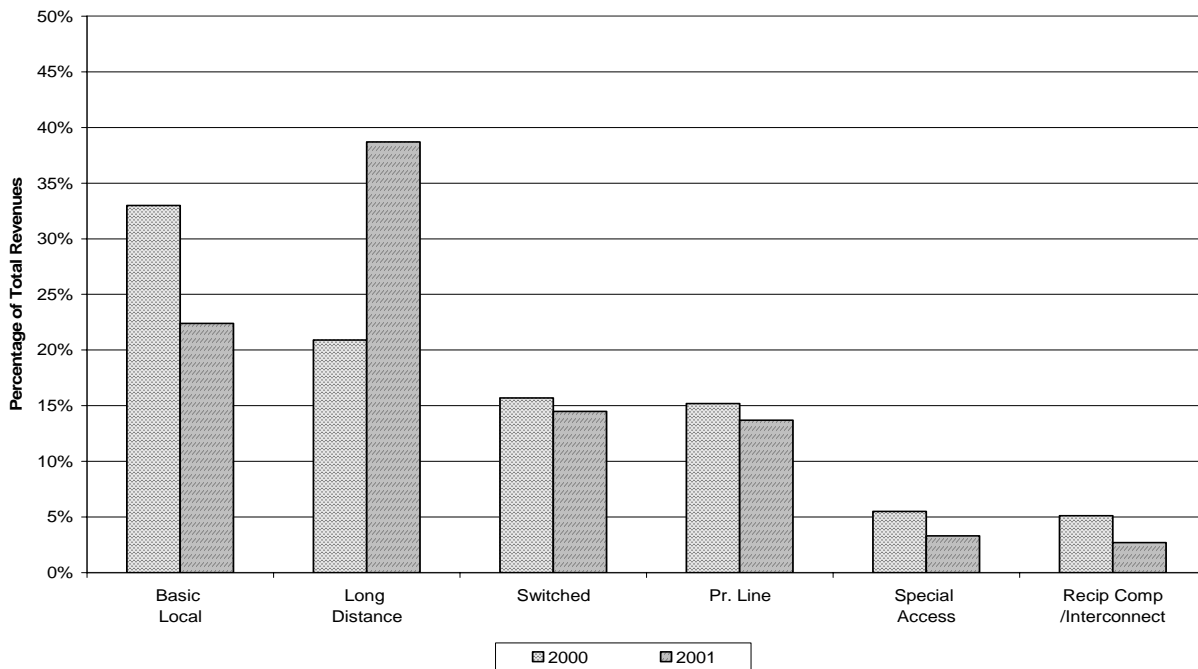
CLEC Revenues

Table 4 and Graph 3 list the major source of revenues for CLECs. The Commission does not have history for CLEC revenues or lines because competitive local service providers were not required to file annual reports prior to 1999. The CLEC annual report numbers for 1999 and 2000 were very suspect because many CLECs did not file reports, and many of the reports that were filed were incomplete, missing detail on revenues, subscribers and lines. The reporting by CLECs has gradually improved, but problems remain and reported numbers are sometimes inconsistent with other information available. As a result, it is possible that the changes in revenue in Table 4 and Graph 3 may reflect better reporting as much as increased business.

Table 4: Composition of CLEC Revenues in Wisconsin

| | Total (thousands) | Basic Local | Long Distance | Switched Access | Pr. Line /Data | Special Access | Recip. Comp. /Interconnect. |
|-------------------|------------------------------|------------------------|--------------------------|----------------------------|---------------------------|---------------------------|--|
| 2000 | \$206,163 | \$68,091 | \$45,179 | \$32,310 | \$31,356 | \$11,328 | \$10,529 |
| % of Total | | 33% | 20.9% | 15.7% | 15.2% | 5.5% | 5.1% |
| | | | | | | | |
| 2001 | \$437,574 | \$98,060 | \$177,146 | \$63,527 | \$60,157 | \$14,658 | \$11,908 |
| % of Total | | 22.4% | 38.7% | 14.5% | 13.7% | 3.3% | 2.7% |
| % Increase | 112.3% | 44.0% | 274.4% | 96.6% | 91.9% | 29.4% | 13.1% |

Graph 3: Source of total CLEC Wisconsin Revenues for 2000 and 2001

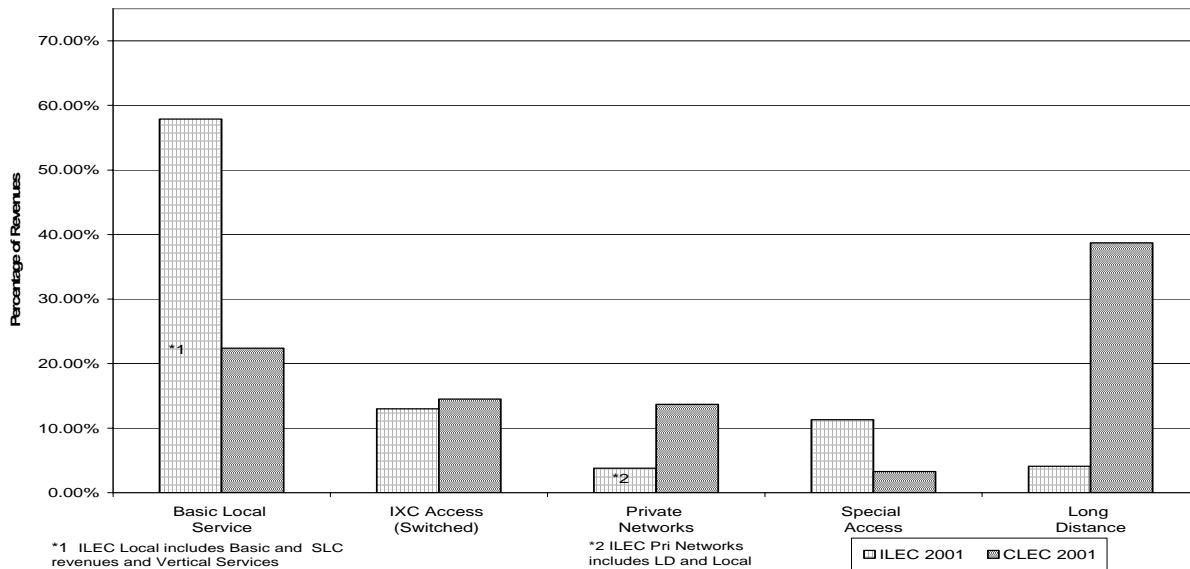


ILEC v. CLEC Revenues

Graph 4 compares the major revenue sources for ILECs in Table 1 with the revenue sources for CLECs in Table 4. Because CLEC local service revenues are a combination of basic service, subscriber line charges and vertical services, these revenues are combined in Graph 4 for ILECs. While CLECs earned 8.4 percent of the combined ILEC and CLEC revenues for 2000 and 16.3 percent in 2001, the makeup of revenues is much different from that of ILECs. The 22.4 percent share of total revenues earned by CLECs from basic local access in 2001 compares to a 37.4 percent share earned by the ILECs. The relatively low share of CLEC revenues earned from basic local service follows from the strategies CLECs have used to compete with ILECs. Because local services have traditionally been priced close to cost, one strategy has been to bundle local service with higher margin products like long distance, vertical services, Internet access and other offerings. CLECs also concentrate more on the business market where margins are higher and where more telecommunication services are purchased per customer. Other CLECs started out as long distance providers before entering the market for local services and naturally have a higher percentage of toll revenues.

Some CLECs only provide data and access services and are not even competing for local voice revenues. This is one reason that combined private line, special access and other data revenues are the third largest revenue source for competitive providers after basic local and long distance services. Switched access revenues make up a smaller portion of revenues for CLECs than for ILECs, in part, because the ILECs receive the access revenues when local services are provided through resale.

Graph 4: ILEC and CLEC Wisconsin Revenue Comparisons for 2001



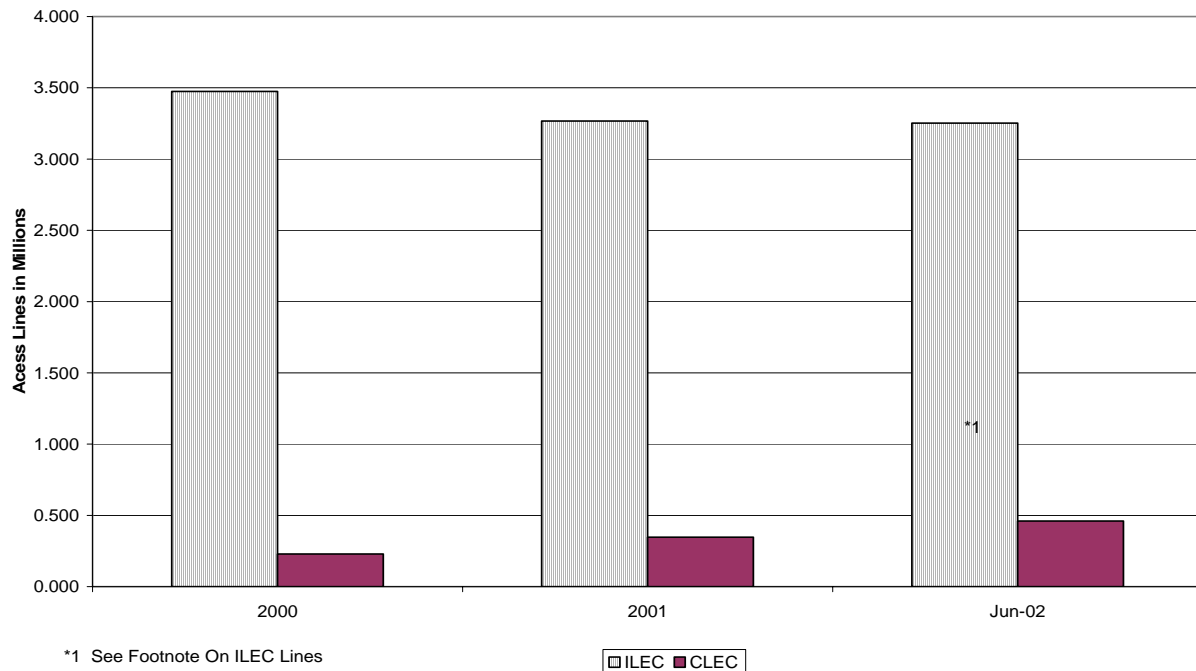
ILEC v. CLEC Lines – Voice Grade Service

Table 5 and Graphs 5 and 6 look at voice-grade lines as of December 31, 2001 and June 30, 2002, subdivided into residential and business lines, and into ILEC and CLEC providers. The ILEC numbers are taken from their 2001 annual reports, with resold lines backed out. The CLEC lines are taken from their responses to the Commission's 12/31/2001 and 6/30/2002 Data Requests, supplemented, if data was missing, by their responses to the FCC's Form 477. The CLEC's 9.6 percent share of all voice grade lines at the end of 2001 is not inconsistent with their 16.3 percent share of all revenues because CLECs had 20.3 percent of the more lucrative business lines.

**Table 5: Voice Grade Lines in Wisconsin as of
December 31, 2001 and June 30, 2002**

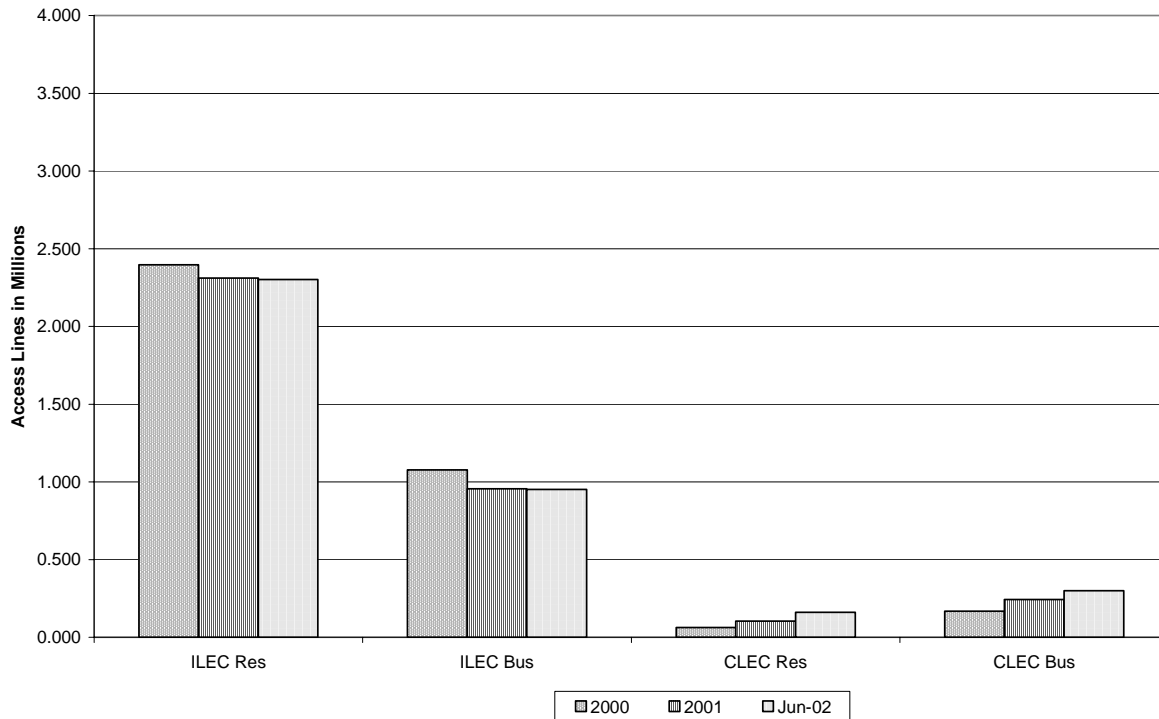
| | Total | Residential | Business | Business Percent |
|------------------------------|------------------|--------------------|-----------------|-----------------------------|
| Total lines 2001 | 3,612,493 | 2,413,782 | 1,198,711 | 33.2% |
| ILEC 2001 | 3,265,817 | 2,310,399 | 955,418 | 29.2% |
| CLEC 2001 | 346,676 | 103,383 | 243,293 | 70.2% |
| CLEC Percent | 9.6% | 4.3% | 20.3% | |
| | | | | |
| Total Lines 6/30/02 | 3,713,507 | 2,462,409 | 1,252,098 | 33.7% |
| ILEC 2001⁸ | 3,252,166 | 2,301,424 | 950,742 | 29.2% |
| CLEC 6/30/02 | 461,341 | 160,985 | 300,356 | 65.1% |
| CLEC Percent | 12.42 % | 6.54% | 24% | |

**Graph 5: Total ILEC and CLEC Voice Grade Lines in Wisconsin
December 2000, 2001 and June 2002**



⁸ The ILEC lines are based upon the 2001 annual reports, but with lines provided for resale deleted to prevent double counting. Because there were more resold lines in June of 2002, the total ILEC lines as of June 2002 is smaller. This may actually be more representative of the actual lines for ILECs, which were lower at the end of 2002 than at the end of 2001.

**Graph 6: Voice Grade Lines by Type in Wisconsin
Years 2000 through June 2002**



Tables 6 and 7, and Graphs 7 and 8, show how CLECs were providing voice-grade services at the end of 2001 and as of June 30, 2002, respectively. The easiest method of entering the market for voice-grade lines is through resale of existing ILEC retail services, which does not require large investments in facilities or other sunk costs. The problem with resale is that ILECs offer a relatively small discount from their retail prices so there is a limited opportunity for CLECs to earn a profit. Resale also limits the CLECs to selling the same switched services that the ILEC provides.

The use of UNEs allows for more flexibility in the services that can be offered by the CLEC. By leasing the loop, the CLEC is able to charge interexchange carriers for switched access to the CLEC's local customers. Switched access has traditionally earned much higher margins than basic local service. In addition, control of the infrastructure gives the CLEC more opportunities to increase profit margins by lowering costs and becoming more efficient. The need to invest in switching capacity and other facilities means that competition through leasing or installing your own lines is more risky, and the larger fixed investment means that a greater scale will be required in order to become profitable.

Starting in 2001, CLECs began to compete in Wisconsin by leasing a package of lines, switching functions and trunks from the ILEC, an arrangement called UNE platform or UNE-P. This eliminates the risk involved with making a large initial investment in facilities before

gaining sufficient scale to recover the investment. UNE-P typically provides better profit margins and bundling options for the CLEC than are obtained from reselling ILEC services while allowing the CLEC to charge interexchange carriers for access to the local customer. In Wisconsin, UNE-P has been used primarily as a means to serve residential customers who are more spread out geographically and spend less per line than business customers.

Some of the first CLECs to enter the local service market in Wisconsin invested in their own switching facilities and built fiber rings in metropolitan areas. These CLECs have continued to add lines using both UNEs from ILECs and their existing networks where available, but new investment by CLECs almost ceased after the capital market for telecommunications companies dried up in 2001. Some of these CLECs are now using UNE-P to reach areas of the state that it had not been economically feasible to serve using their own switches and outside plant.

One anomaly illustrated in Tables 6 and 7 is that the number of resold lines declined from a high of 98,364 at the end of 2000 to 59,839 at the end of 2001, then increased during the first half of 2002 to 73,490 lines. The increase in 2002 occurred even with the growth of UNE-P, which has been replacing resale as an entry option. The decline during 2001 occurred even with a better response by pure resellers to the 2001 and 2002 data requests than for the 2000 survey. One possible explanation for what has happened in the resale market is that toll resellers have added local service to the products they provide through resale.

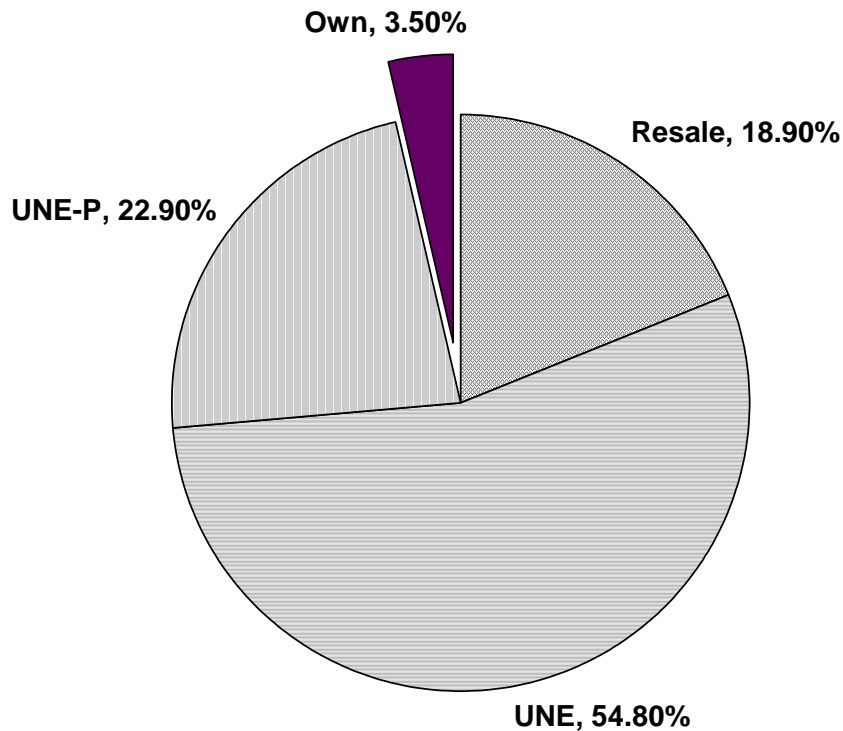
**Table 6: CLEC Provision of Voice-Grade Lines
in Wisconsin, December 31, 2001**

| | Total | Resale | UNE | UNE-P | Own |
|---|--------------|---------------|------------|--------------|------------|
| Residential | 103,383 | 21,420 | 75,733 | 1,768 | 4,461 |
| Percent of Total | | 20.7% | 73.3% | 1.7% | 4.3% |
| Business | 243,293 | 38,419 | 148,229 | 5,977 | 50,668 |
| Percent of Total | | 15.8% | 60.9% | 2.5% | 20.8% |
| | | | | | |
| Total | 346,676 | 59,839 | 223,963 | 7,745 | 55,129 |
| Percent of Total | | 17.3% | 64.6% | 2.2% | 15.9% |
| Percent Change from 12/31/2000 | 50.5% | -39.2% | 116.9% | n/a | 92.4% |

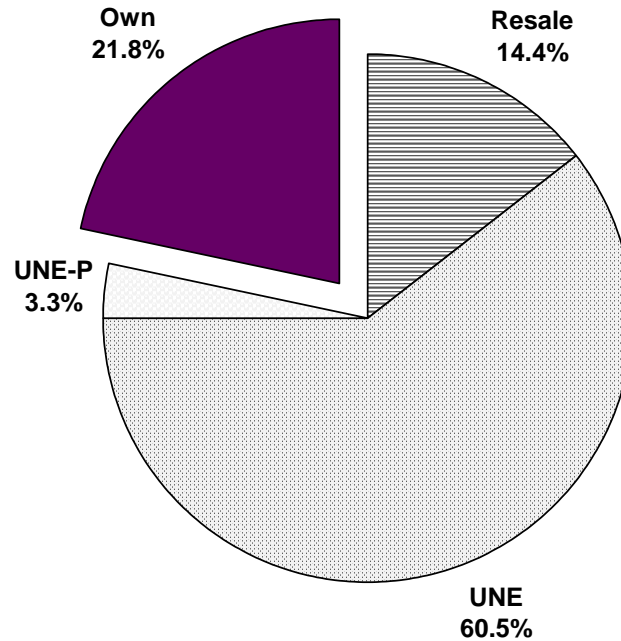
**Table 7: CLEC Provision of Voice-Grade Lines
in Wisconsin, June 30, 2002**

| | Total | Resale | UNE | UNE-P | Own |
|---|--------------|---------------|------------|--------------|------------|
| Residential | 160,985 | 30,395 | 88,158 | 36,784 | 5,648 |
| Percent of Total | | 18.9% | 54.8% | 22.9% | 3.5% |
| Business | 300,356 | 43,095 | 181,962 | 9,797 | 65,502 |
| Percent of Total | | 14.4% | 60.6% | 3.3% | 21.8% |
| | | | | | |
| Total 6/30/02 | 461,341 | 73,490 | 270,120 | 46,581 | 71,150 |
| Percent of Total | | 15.9% | 58.6% | 10.1% | 15.4% |
| Percent Change from 12/31/2001 | 33.1% | 22.8% | 20.6% | 501% | 29.1% |

**Graph 7: CLEC Provision of Residential
Voice Grade Lines in Wisconsin, June 30, 2002**



**Graph 8: CLEC Provision of Business
Voice Grade Lines in Wisconsin, June 30, 2002**



For the year 2000, ILECs reported to the FCC that they provided 36,364 more lines for resale than competitors reported reselling in the Commission's 2000 data request. By June 30, 2002 the discrepancy was less than 6,000 lines for resale and 3,942 lines for UNE-P. In contrast, the ILECs reported that they leased 22,292 fewer UNE lines to CLECs in 2000 than CLECs reported leasing. By June of 2002, CLECs reported leasing 61,833 more UNE lines than the ILECs reported to the FCC. A large portion of the discrepancy in the 2002 numbers can be attributed to one CLEC, which suggests that there was a reporting error by that company. If the number of loops that this CLEC reported to the FCC were used instead of the number in its response to the data request, the discrepancy between ILEC UNE loops leased out and CLEC UNE lines would be much smaller. With this exception, the Commission staff considers its data request to be the most accurate source of information about competitive activity in Wisconsin.

Geographic Analysis – Voice Grade Services

In the data request, each CLEC was asked to provide line counts by location. To preserve confidentiality of reported data, for this report Wisconsin was divided into seven areas: Milwaukee Metro,⁹ Madison Metro,¹⁰ Fox Valley,¹¹ 262 area code outside of Milwaukee Metro, 608 area code outside of Madison Metro, 920 area code outside of Fox Valley, and the 715 area code. A map of these areas is provided in Appendix A. The distribution of CLEC voice-grade lines by area is provided in Tables 8 and 9 for residential customers and in Tables 10 and 11 for business customers.

Table 8: Distribution of CLEC Residential Voice Grade Lines in Wisconsin, December 2001

| Area | Total | Resale | UNE | UNE-P | Own |
|----------------------------------|----------------|---------------|---------------|--------------|--------------|
| Milwaukee Metro | 16,299 | 199 | 16,082 | 18 | 0 |
| Madison/Dane Co. | 22,962 | 2,081 | 20,328 | 2 | 551 |
| Fox Valley | 31,778 | 5,564 | 26,102 | 112 | 0 |
| 262 outside of Mil. Metro | 6,661 | 576 | 5,768 | 12 | 305 |
| 608 outside of Mad. Metro | 4,528 | 2,743 | 1,733 | 6 | 46 |
| 920 outside of Fox Valley | 10,373 | 5,306 | 5,063 | 4 | 0 |
| 715 Area Code | 10,781 | 4,950 | 658 | 1,614 | 3,559 |
| Totals | 103,383 | 21,420 | 75,734 | 1,768 | 4,461 |

Table 9: Distribution of CLEC Residential Voice Grade Lines in Wisconsin, June 30, 2002

| Area | Total | Resale | UNE | UNE-P | Own |
|----------------------------------|----------------|---------------|---------------|---------------|--------------|
| Milwaukee Metro | 34,997 | 275 | 18,642 | 16,080 | 0 |
| Madison/Dane Co. | 28,697 | 2,916 | 22,781 | 2,421 | 579 |
| Fox Valley | 40,751 | 7,843 | 28,442 | 4,454 | 12 |
| 262 outside of Mil. Metro | 13,107 | 915 | 7,159 | 4,633 | 400 |
| 608 outside of Mad. Metro | 8,500 | 3,854 | 2,493 | 1,671 | 482 |
| 920 outside of Fox Valley | 19,388 | 8,154 | 7,455 | 3,679 | 100 |
| 715 Area Code | 15,545 | 6,438 | 1,186 | 3,846 | 4,075 |
| Totals | 160,985 | 30,395 | 88,158 | 36,784 | 5,648 |

⁹ Milwaukee Metro includes all of Milwaukee County plus the cities of Muskego, New Berlin, Brookfield, Waukesha, Pewaukee, Menomonee Falls, Germantown, Mequon and Thiensville.

¹⁰ Madison Metro includes the cities of Madison, Middleton, Sun Prairie, McFarland, Stoughton and Cottage Grove.

¹¹ The Fox Valley includes cities from Oshkosh to Green Bay.

In the Milwaukee area, the primary means of entering the market for residential customers was through combining UNE loops with CLEC switches which were primarily installed to serve business customers. There was a large increase in UNE lines during 2001, with less dramatic growth during the first half of 2002. The Milwaukee market experienced significant competitive entry into the residential market through UNE-P during the first half of 2002. Only in the Milwaukee area, and a few places in the 715 area code, has there been significant use of the CLEC's own lines and cables to serve residential customers in Wisconsin.

In contrast to Milwaukee, there was more emphasis by CLECs on the residential market in Madison and the Fox Valley. In these areas, the number of UNE loops used to reach residential customers increased by over 100 percent during 2001, followed by slower growth during 2002.

The resale market was the largest form of competitive entry in the Fox Valley in 2000, but declined in importance by 2002. It appears that in the Fox Valley and Madison, customers initially served through resale in 2000 are now being served through the CLEC's own switch or through UNE-P.

Competition in the outlying areas within the 608, 920 and 715 area codes was primarily through resale in 2000, but the number of resale lines declined in 2001 before growing again in 2002. The exceptions to the use of resale in outlying areas of the state was where small rural ILECs created CLECs and extended their facilities into neighboring territories served by SBC, Verizon and Century. In areas of the 262, 608 and 920 area codes closer to Madison, Milwaukee and the Fox Valley, CLECs have been able to extend the reach of their switching facilities by using UNE loops and transport.

The numbers in Tables 10 and 11 show the extent to which CLECs continue to focus on the business market in metropolitan areas, where they have been able to invest in both switching facilities and fiber optic rings connecting major concentrations of customers. With these facilities already in place, UNE-P has not been as large a factor in the business market as it is for residential customers. The amount of resale to business customers, while dropping from 67,014 lines in 2000 to 43,096 lines in 2002, continues to be significant, especially in outlying areas. As mentioned above, there is reason to believe the number of lines served by UNEs was significantly inflated by one company in its response to the June 30, 2002 data request, so the number of business lines served using UNE loops may actually be closer to 150,000 than the 182,000 lines listed in Table 11.

**Table 10: Distribution of CLEC Business
Voice Grade Service in Wisconsin, December 2001**

| Area | Total | Resale | UNE | UNE-P | Own |
|----------------------------------|----------------|---------------|----------------|--------------|---------------|
| Milwaukee Metro | 107,505 | 4,069 | 56,614 | 2,134 | 44,688 |
| Madison/Dane Co. | 39,777 | 9,545 | 28,036 | 277 | 1,919 |
| Fox Valley | 38,707 | 7,153 | 30,430 | 506 | 618 |
| 262 outside Mil. Metro | 24,217 | 4,760 | 17,758 | 1,573 | 126 |
| 608 outside Madison Metro | 4,561 | 1,771 | 2,659 | 128 | 3 |
| 920 outside Fox Valley | 18,150 | 4,875 | 12,707 | 568 | 0 |
| 715 Area Code | 10,375 | 6,246 | 25 | 790 | 3,314 |
| Totals | 243,292 | 38,419 | 148,229 | 5,976 | 50,688 |

**Table 11: Distribution of CLEC Business
Voice Grade Service in Wisconsin, June 2002**

| Area | Total | Resale | UNE | UNE-P | Own |
|----------------------------------|----------------|---------------|----------------|--------------|---------------|
| Milwaukee Metro | 131,193 | 3,449 | 74,340 | 3,492 | 49,912 |
| Madison/Dane Co. | 49,029 | 8,025 | 29,909 | 836 | 10,259 |
| Fox Valley | 38,477 | 5,089 | 30,803 | 1,212 | 1,373 |
| 262 outside Mil. Metro | 32,404 | 5,599 | 24,798 | 1,854 | 153 |
| 608 outside Madison Metro | 6,299 | 2,191 | 3,828 | 113 | 167 |
| 920 outside Fox Valley | 30,198 | 10,708 | 18,119 | 1,331 | 40 |
| 715 Area Code | 12,757 | 8,035 | 165 | 959 | 3,598 |
| Totals | 300,357 | 43,096 | 181,962 | 9,797 | 65,502 |

Geographic Analysis

High Capacity Lines

Tables 12 and 13 list the number of “high capacity” lines provided by competitive providers through resale, UNEs and their own facilities. For the purposes of the data request, high capacity lines were defined to be lines equivalent to DS1/T1 or greater speed, but not provided as “broadband lines” using DSL or cable modems to access the Internet. High capacity lines generally are used to carry data, video and multiple voice lines for businesses.

Because more revenues per customer are generated from services that need higher capacity than for normal voice lines, CLECs have been able to construct more of their own facilities to connect with end users, especially in urban areas. Competition in this market started prior to the passage of the Telecommunication Act of 1996 when competitive providers connected interexchange carriers directly with large businesses in order to capture the access

revenues. With the opening of local services to competition and the growth in data traffic, these “bypass” facilities were ideally situated to compete for the local business market.

The number of high capacity lines in the Milwaukee metro area in the 2000 data request is much higher than the number reported in the 2001 and 2002 data requests. This kind of response is not consistent with all of the other evidence of what is happening with the market for telecommunication services in this market, suggesting that there was a problem with one of the surveys. While the 2001 and 2002 data requests were generally more complete and had a better response rate than in 2000, this was not the case for the CLECs that served the large business market in Milwaukee. Their failure to respond may have been caused by the turmoil in the telecommunications industry during 2001 and 2002 when some of these companies either went bankrupt, disappeared entirely, merged or otherwise decided not to cooperate.

There is not enough information available to construct market share information for high capacity lines because the Commission annual reports and the FCC surveys do not collect comparable information to what was obtained in the data request. For these reports, high capacity lines used for telecommunication services have either been converted into voice-grade equivalent lines or were listed as PBX trunks, private lines or as broadband lines, depending upon how the lines are used. The FCC report lists all high capacity lines that connect to public networks for data traffic as broadband lines in its survey.

Table 12: Competitive High Capacity Lines in Wisconsin, December 2001

| Area | Total | Resale | UNE | Own |
|----------------------------------|---------------|---------------|---------------|---------------|
| Milwaukee Metro | 25,632 | 208 | 9,474 | 15,950 |
| Madison Metro | 7,046 | 171 | 4,537 | 2,338 |
| Fox Valley | 3,591 | 136 | 1,383 | 2,072 |
| 262 outside Mil. Metro | 2,384 | 203 | 2,060 | 121 |
| 608 outside Madison Metro | 1,143 | 51 | 755 | 337 |
| 920 outside Fox Valley | 1,747 | 79 | 1,650 | 18 |
| 715 Area Code | 250 | 217 | 2 | 31 |
| Totals | 41,793 | 1,065 | 19,861 | 20,867 |

Table 13: Competitive High Capacity Lines in Wisconsin, June 30, 2002

| Area | Total | Resale | UNE | Own |
|----------------------------------|---------------|---------------|---------------|---------------|
| Milwaukee Metro | 29,265 | 241 | 11,377 | 17,647 |
| Madison Metro | 8,898 | 146 | 5,149 | 3,603 |
| Fox Valley | 7,718 | 200 | 5,195 | 2,323 |
| 262 outside Mil. Metro | 3,443 | 306 | 3,061 | 76 |
| 608 outside Madison Metro | 1,458 | 54 | 1,011 | 393 |
| 920 outside Fox Valley | 2,544 | 104 | 2,422 | 18 |
| 715 Area Code | 292 | 265 | 3 | 24 |
| Totals | 53,618 | 1,316 | 28,218 | 24,084 |

Broadband Lines

For this report, broadband is defined as high speed access where the end user is able to connect to the internet through DSL technology over the copper/fiber telephone network, cable modems over the fiber/coaxial cable television network, over fiber optic cables, or through wireless technology such as satellite or fixed wireless. The data request did not provide a speed definition, so very fast lines were not distinguished from lines that were slower, but still exceeded what is possible using dial-up modems.

The FCC defines broadband as an “information service” used to access the Internet or other public data networks and a “broadband line” is any means used to provide that access that exceeds 200 kbps one way. This definition of broadband includes ADSL and other types of DSL, traditional wireline high-capacity lines, cable modem, satellite transmission, and both mobile and fixed wireless technology used to provide “broadband service.” A high capacity line that is used to provide “telephone service,” or that does not connect to a public data network, even if it exceeds 200 kbps, is not considered to be broadband by the FCC.

Tables 14 through 18 do not include the broadband lines provided by ILECs. Broadband “services,” as defined by the FCC, have not been provided directly by most ILECs other than the data and special access services that use T1, DS1, or higher speeds. SBC provides broadband through a separate affiliate that is registered in Wisconsin as a CLEC and it responded to the data request as a CLEC. Verizon provided broadband in this manner in 2000, but was given permission by the FCC to transfer its broadband services back into its ILEC entity during 2001. Some of the CATV providers declined to respond to the Commission data requests, so the broadband numbers in Tables 14 through Table 16 and Graph 10 have been supplemented by the FCC’s broadband survey.

Table 14: Broadband Lines in Wisconsin as of December 31, 2001

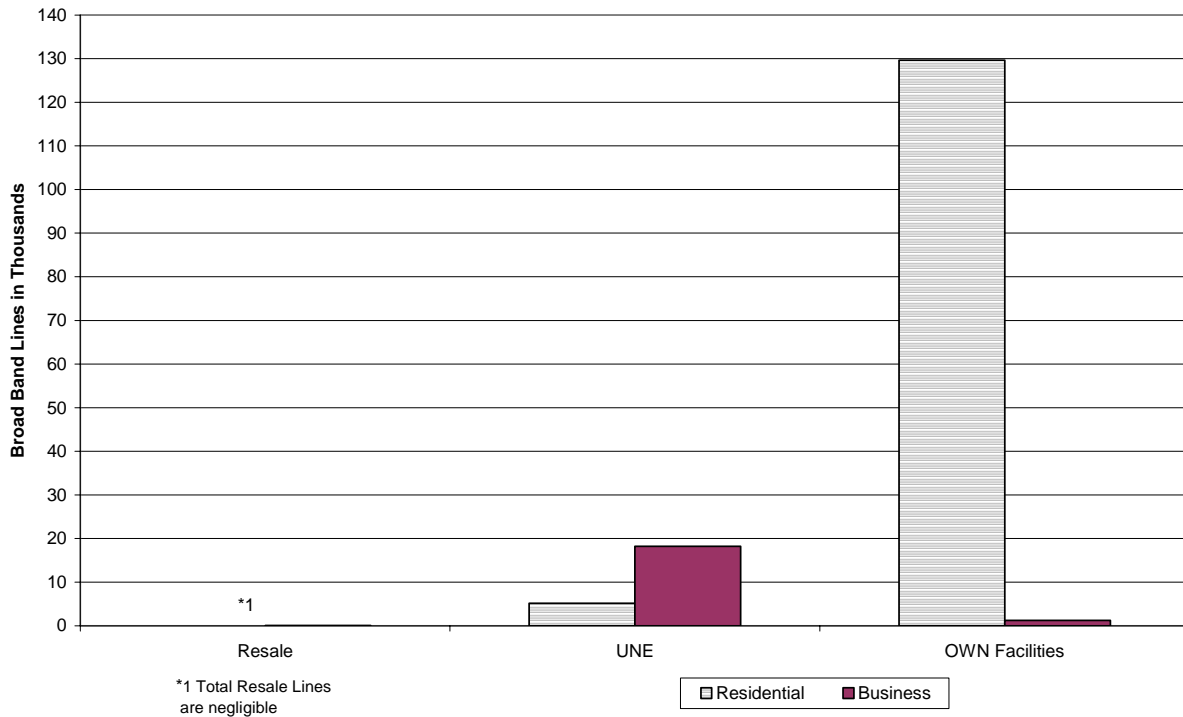
| | Total | Resale | UNE | Own |
|---------------------------|--------------|---------------|------------|------------|
| Residential | 134,803 | 22 | 5,154 | 129,636 |
| Business | 19,508 | 54 | 18,212 | 1,242 |
| Total | 154,311 | 76 | 23,357 | 130,878 |
| Increase over 2000 | 96,085 | (82) | 16,453 | 79,714 |
| Percent Change | 165% | -52% | 238% | 156% |

Table 15: Broadband Lines in Wisconsin as of June 30, 2002

| | Total | Resale | UNE | Own |
|---------------------------|--------------|---------------|------------|------------|
| Residential | 193,778 | 76 | 6,478 | 187,224 |
| Business | 28,985 | 122 | 26,895 | 1,968 |
| Total | 222,763 | 198 | 33,373 | 189,192 |
| Increase over 2001 | 68,452 | 122 | 10,016 | 58,314 |
| Percent Change | 44.4% | 161% | 42.9% | 44.6% |

Broadband lines under the data request definition were primarily used by residential customers in 2000, with only 3,238 lines, mostly DSL, serving businesses. By June of 2002, there were 26,895 business broadband lines using DSL. The relatively small number of business lines provided by CATV companies can be attributed to the fact that cable television facilities were originally installed to serve residences. The FCC classifies residences and small businesses with less than 3 lines together, so some of the CATV lines listed under the residential category in Tables 14 and 15 may actually be serving small businesses.

Graph 10: Broadband Lines in Wisconsin, December 2001

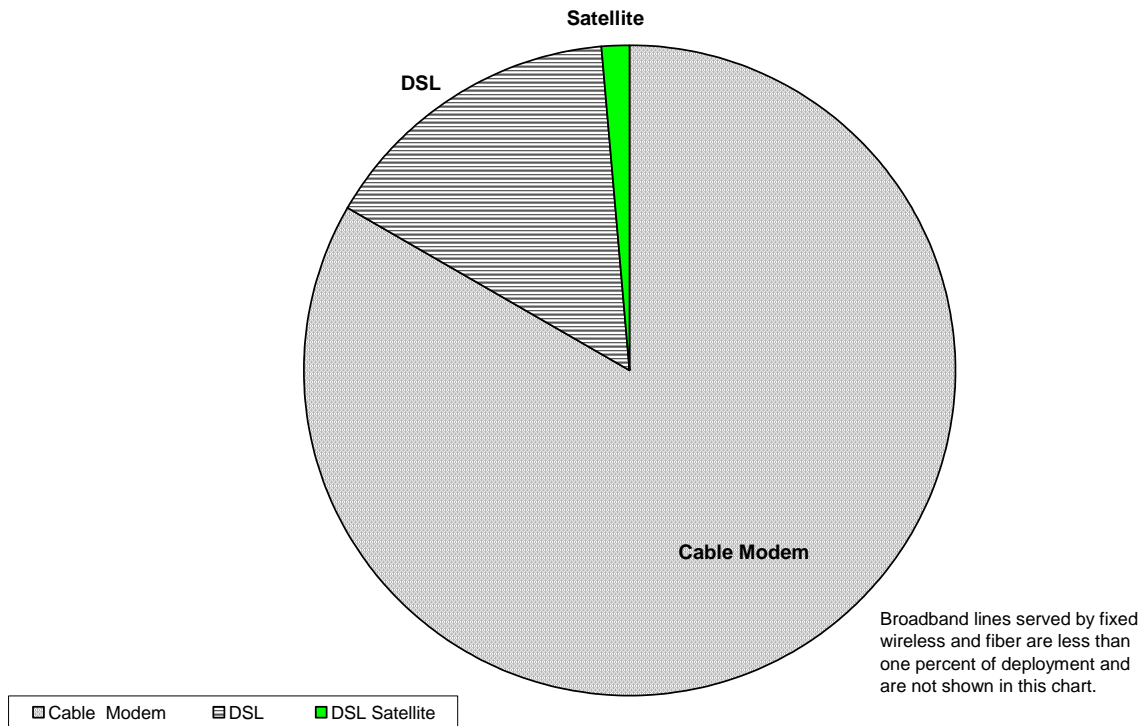


The deployment of broadband lines by technology is summarized in Table 16. The responses to the data request only listed fiber optic cables as an option for providing broadband in 2001 and 2002. Under the FCC's definition, there would have been broadband lines using fiber even before 2000. The information on the provision of broadband using satellite technology comes entirely from the FCC report on broadband. The satellite companies have focused on providing broadband in rural areas of Wisconsin that currently are not capable of being served by DSL or cable modem.

Table 16: Deployment of Broadband Lines in Wisconsin

| | Total | Cable Modem | DSL | Fixed Wireless | Fiber | Satellite |
|---------------------------|---------|-------------|--------|----------------|-------|-----------|
| December 31, 2001 | 156,331 | 129,957 | 24,116 | 39 | 199 | 2,020 |
| Percent of Total | | 83.1% | 15.4% | 0.0% | 0.1% | 1.3% |
| | | | | | | |
| June 30, 2002 | 225,017 | 188,036 | 34,409 | 79 | 239 | 2,254 |
| Percent of Total | | 83.6% | 15.3% | 0.0% | 0.1% | 1.0% |
| | | | | | | |
| Increase over 2001 | 68,686 | 58,079 | 10,293 | 40 | 40 | 234 |
| Percent Increase | 43.9% | 44.7% | 42.7% | 102.5% | 20.1% | 11.6% |

Graph 10: Deployment of Broadband Lines 2001



The numbers in Tables 17 and 18 are taken only from the data requests and provide a summary of the broadband market by area. The CATV providers that did not respond to the data request serve Madison and many of the outlying areas of the state in the 608, 920 and 715 area codes.

Table 17: Distribution of Broadband Lines in Wisconsin, December 31, 2001

| | Total | Residential | Business |
|----------------------------------|---------------|---------------|---------------|
| Milwaukee Metro | 46,957 | 37,319 | 9,638 |
| Madison Metro | 5,479 | 2,239 | 3,240 |
| Fox Valley | 22,282 | 20,227 | 2,055 |
| 262 outside Mil. Metro | 15,962 | 12,856 | 3,106 |
| 608 outside Madison Metro | 463 | 220 | 243 |
| 920 outside Fox Valley | 1,259 | 499 | 760 |
| 715 Area Code | 981 | 515 | 466 |
| Totals | 93,383 | 73,875 | 19,508 |

**Table 18: Distribution of Broadband Lines in Wisconsin,
June 30, 2002**

| | Total | Residential | Business |
|----------------------------------|----------------|--------------------|-----------------|
| Milwaukee Metro | 66,883 | 50,667 | 16,216 |
| Madison Metro | 5,070 | 2,492 | 2,578 |
| Fox Valley | 29,826 | 26,561 | 3,265 |
| 262 outside Mil. Metro | 24,396 | 19,989 | 4,407 |
| 608 outside Madison Metro | 999 | 422 | 577 |
| 920 outside Fox Valley | 2,437 | 1,325 | 1,112 |
| 715 Area Code | 1,682 | 852 | 830 |
| Totals | 131,293 | 102,308 | 28,985 |

Wireless

Wireless telecommunication service is having a significant impact on the revenues of, and number of lines provided by, wireline companies in Wisconsin, both by eliminating the need for second lines and serving customers who decide not to purchase a wireline connection. Wireless service has also caused a decrease in the number of wireline companies' toll minutes of use, which impacts both toll and switched access revenues. Table 19 shows the growth in wireless subscribers in Wisconsin since 1999 and compares the number of subscribers to the total number of ILEC voice-grade lines. The wireless numbers are based upon the FCC's local competition and broadband report and have been somewhat fluid and subject to revision with each new report. The number of subscribers for June of 2000 is not consistent with those reported in other years and was not included.

Table 19: Growth in Wireless Subscribers in Wisconsin

| | Wireless Subscribers | Percent Increase | Wireless as a Percent of ILEC Lines | Wireless as a Percent of all Wire Lines |
|----------------------|---------------------------------|-----------------------------|--|--|
| December 1999 | 1,525,818 | | 45% | 43% |
| December 2000 | 1,698,520 | 11.3% | 50% | 47% |
| June 2001 | 2,008,679 | 18.3% | 59% | 56% |
| December 2001 | 2,229,389 | 11.1% | 68% | 62% |
| June 2002 | 2,522,479 | 13.1% | 78% | 68% |

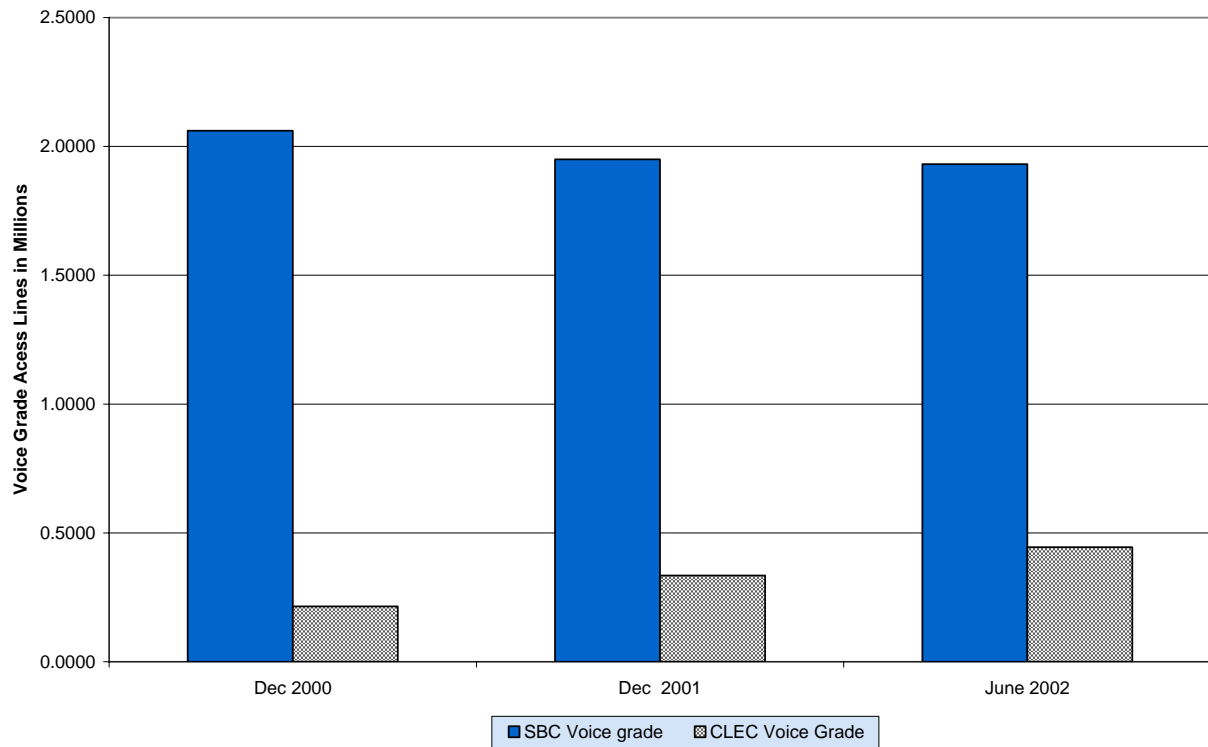
SBC-CLEC Market Share

Because of Commission Docket 6720-TI-170, SBC's petition to gain §271 authority to enter the interLATA and interstate long distance business, there is interest in looking at SBC's share of the market for voice-grade wireline services. Table 20 and Graph 12 contain a comparison of competitive lines in SBC exchanges with SBC lines as reported in SBC's Annual Reports for 2000 and 2001. Because SBC counts the lines it provides to CLECs for resale as its lines in the Annual Reports, the lines that CLECs provide using resale in SBC's territory have been deducted from SBC's total lines. The June 30, 2002 count of SBC's lines is based upon the December 31, 2001 report with June resold lines subtracted. The residential lines should be fairly comparable between SBC and the CLECs, but the business lines include both regular voice lines, PBX trunks and centrex lines, which may not have been counted the same way by CLECs in their responses to the data request.

Table 20: CLEC Penetration of SBC Exchanges in Wisconsin

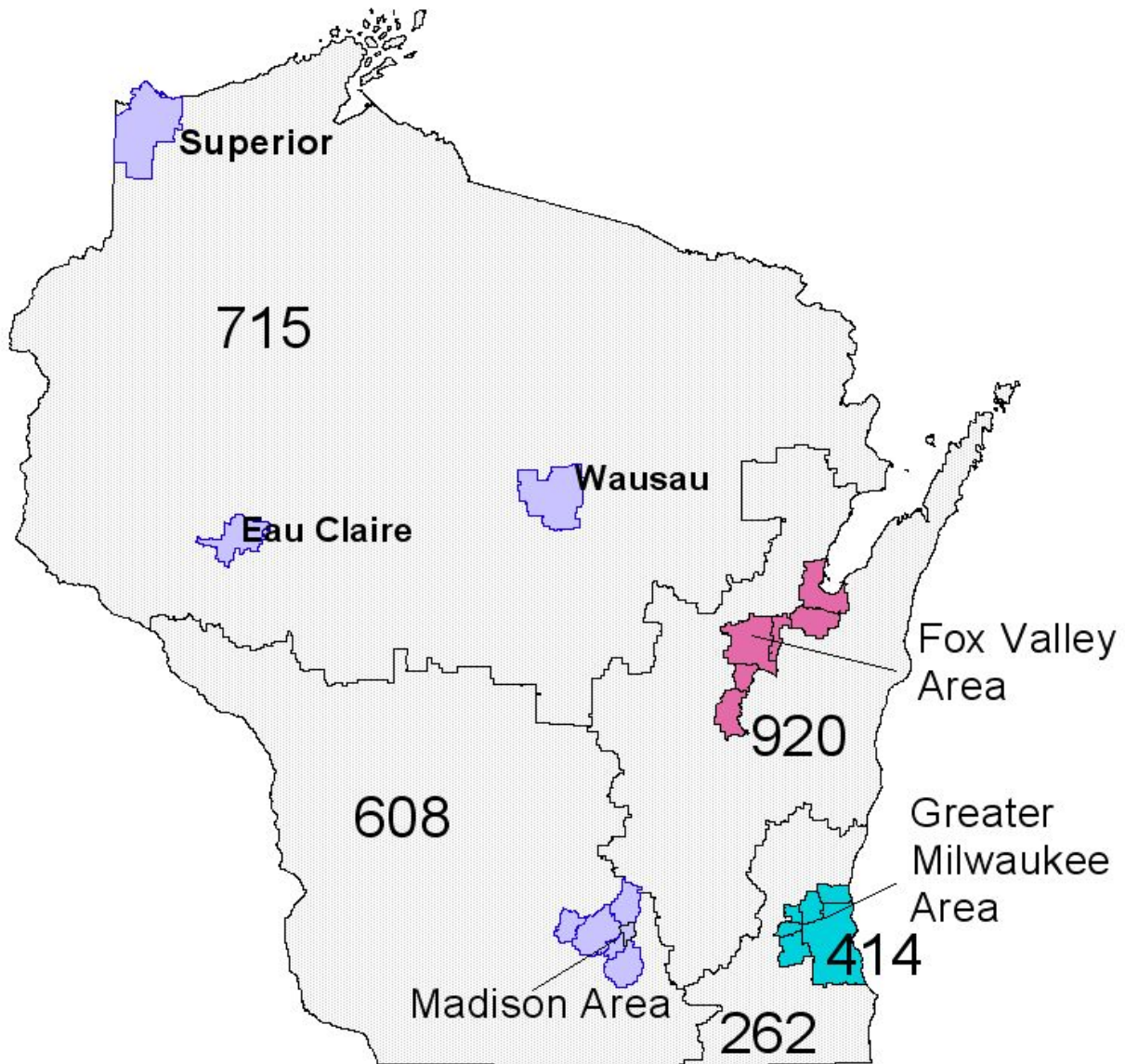
| | SBC | CLEC | Total | CLEC % |
|--|------------|-------------|--------------|---------------|
| December 2000 Voice Grade Total | 2,061,064 | 214,585 | 2,276,209 | 9.4% |
| Voice Grade Residential Lines | 1,385,938 | 57,531 | 1,443,469 | 4.0% |
| Voice Grade Business Lines | 675,686 | 157,054 | 832,740 | 18.9% |
| | | | | |
| December 2001 Voice Grade Total | 1,949,590 | 334,319 | 2,283,909 | 14.6% |
| Voice Grade Residential Lines | 1,332,925 | 96,943 | 1,429,868 | 6.8% |
| Voice Grade Business Lines | 616,665 | 237,376 | 854,041 | 27.8% |
| | | | | |
| June 30, 2002 Voice Grade Total | 1,930,884 | 444,481 | 2,375,365 | 18.7% |
| Voice Grade Residential Lines | 1,321,779 | 152,083 | 1,473,862 | 10.3% |
| Voice Grade Business Lines | 609,105 | 292,398 | 901,503 | 32.4% |

**Graph 12: Total Voice Grade Lines for SBC and CLECs
in SBC Wisconsin Territory**



EDW:GAE;NAL:JAK:cdg\T:\STAFF\EDW\Competitive Study Committee\Rept on Local Tele Competition in WI
12.01 to 6.02.doc

Wisconsin Area Code Map



Appendix B

The Competitive Study Committee

The Competitive Study Committee was established in January of 2000 to develop a report on the status of competition in the local telecommunications market in Wisconsin. The main activity of the Committee has been to gather information about competition. The Committee was responsible for designing and issuing the data request that the Commission sent to competitive providers of local telecommunication services in Wisconsin in August of 2001. The first report to document the extent of competition in the market for local telecommunications services in Wisconsin, the *Competitive Study Committee Report for the Year 2000*, was based upon the results of this survey.

Members of the Competitive Study Committee:

| | |
|--|--|
| <u>Cable TV Operator:</u> | James C. Rice, Charter Communications |
| <u>Municipal Electric Utilities:</u> | Daniel M. Dasho, Shawano Municipal Utilities |
| <u>Wireless Provider:</u> | Kenneth A. Schiffman, Sprint PCS |
| <u>ISP:</u> | Phillip W. Uekert, AT&T WorldNet |
| <u>At-Large Member:</u> | Doug Johnson, Wisconsin Merchants Federation |
| <u>Telecommunications Carrier:</u> | David W. McGann, MCI WorldCom (replaced by Niles Berman) |
| <u>ATU-Other (CLEC):</u> | Shane Kaatz, TDS Metrocom (replaced by Nick Jackson) |
| <u>Reseller:</u> | William A. Haas, McLeodUSA (replaced by Dan Lipschultz) |
| <u>Ameritech Wisconsin (SBC Wisconsin):</u> | John Schafer (replaced by Scott VanderSanden) |
| <u>GTE North (Verizon North):</u> | Paul Verhoeven |
| <u>Payphone-COCOT Provider:</u> | Bob Nartowicz, Wisconsin Pay Telephone Association |
| <u>Wisconsin State Telecommunications Association:</u> | John Klatt, Lakeland Telephone Co. |
| <u>Citizens Utility Board:</u> | Steven Hiniker |
| <u>Department of Justice:</u> | Edwin Hughes |
| <u>Academic Advisor:</u> | Peter Carstensen, UW-Madison Law School |
| <u>Policy Staff:</u> | Duane Wilson, Public Service Commission of Wisconsin |
| <u>Staff Facilitator:</u> | Nick Linden, Public Service Commission of Wisconsin |